

FIELD DISCHARGE SWITCH

DEAD FRONT TYPE LF-23

Description

Type LF-23 field discharge knife switch for dead front mounting is shown by Fig. 1 and drawing P-6129424. Fig. 101 shows D.P.S.T. switch for mounting on right hand side of the main panel and Fig. 102 is for mounting on left hand side. Figs. 1 and 103 show D.P.D.T. switch consisting of two D.P.S.T. switches with mechanical interlock.

The type LF-23 switch is of the laminated blade and tongue contact construction with embossed line pressure contacts. These switches are provided with metal to metal arcing tips. Discharge clips eliminate high voltage inductive surges. Switch parts and operating mechanism support are mounted on a sub-panel which is adaptable to pipe or clip angle mounting. Operating mechanism is of the rotating type with molded position indicating handle and escutcheon plate on the front of the main panel. D.P.D.T. switches are provided with a cam operated interlock which prevents the closing of both switches at one time.

Installation and adjustment

(A) All switches which are mounted on bases at the factory are adjusted completely before shipment. Check at installation to see that the adjustment has not been changed due to mishandling during shipment or installation. Procedure for installation and adjustment of factory assembled switches is covered in paragraphs 3 to 9 inclusive.

(B) Switches which are shipped unmounted are factory adjusted at the hinge end and the procedure for installation and adjustment is given in the following paragraphs.

1. Coat contact surfaces with a lubricant GE-5485 or similar. Do not use "cup" or other grease which may harden on exposure to air.

2. Mount switch parts and mechanism support on sub-panel as shown on outline drawing. Close switch and make sure that contact and hinge blocks are properly aligned so that blades engage contact centrally and that sides of contacts are parallel with blades. Tighten contact and hinge mounting bolts. Adjust discharge clip by bending slightly to obtain clearance. Show in Fig. 107.

3. Before assembling mechanism, check contact adjustment by means of a spring balance at center of insulating cross bar and at right angles to switch blades. Pull required to open switch should be approximately 24# for the 100 and 200 ampere switches and 30# for the 400 ampere when the contacts are properly adjusted. Pull required for hinge only. (Blades disengaged from contacts) should be approximately 6# for the 100 and 200 ampere switches and 8# for the 400 ampere. If value obtained differs from that given above, adjust contact holding bolts uniformly until required pull is obtained which indicates proper contact pressure.

4. Also check contact adjustment by attempting to insert a .002" feeler gauge between the embossed surface of the blade and the contact tongue.

5. If feeler gauge can be inserted at any point

along the embossed line, open switch and adjust blades by means of a clip wrench. Adjustments should be made in small amounts and switch closed and tested after each change until a satisfactory adjustment has been obtained.

6. Mount switch assembly on main panel by means of clip angles, or pipe fittings, depending on construction used. See that main panel drilling for mechanism shaft lines up with mechanism support on switch base so that shaft will not be bent when assembled.

7. Mount escutcheon plate on front of panel using screws provided for that purpose. Attach molded handle to shaft and place spring washer and centering washer on shaft with latter next to escutcheon plate. Apply coating of lubricant GE-5485 or similar to shaft and assemble through panel mechanism support and crank. Compress spring washer under handle by pulling shaft through crank as far as possible. Tighten clamping bolt on mechanism crank. Cut shaft flush with mechanism crank. When auxiliary switch is used, do not remove from mechanism shaft when assembling.

For D.P.D.T. switches, above procedure should be followed except do not bolt up escutcheon plate until interlock is ready for assembly. Pass shaft through escutcheon, panel, interlock cam, interlock support and mechanism support when assembling. Assemble interlock bar and bolt escutcheon plate and interlock plate in place.

8. Loosen holding nuts on mechanism support and adjust support stop so that mechanism handle is in vertical position for both the open and closed position of the switch.

9. Fig. 106 shows method of connecting discharge resistor for D.P.D.T. switch.

Maintenance

Switches should be thoroughly cleaned periodically to prevent accumulation of dust. After cleaning, apply a coat of lubricant GE-5485 or similar to contact surface.

Condition of contacts should also be checked at regular intervals and adjustments made if necessary. (See paragraphs 3, 4 and 5).

FIG. 1
TYPE LF-23 FIELD DISCHARGE
KNIFE SWITCH D.P.D.T. WITH
MECHANICAL INTERLOCK.

